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PATENT SPECIFICATION

593,584



Application Date: Feb. 12, 1945.

No. 3506/45.

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Complete Specification Accepted: Oct. 21, 1947.

PROVISIONAL SPECIFICATION

Improvements in Closures for Cabinets, Bins and like Receptacles

We, JOHN CARTNER, of 8, Cavendish Square, London, W.1, England, and MAURICE MARTIN MILES SHERWOOD, of 37, Vauxhall Street, Rainbow Hill, Worcester, England, both British subjects, do hereby declare the nature of this invention to be as follows:—

This invention relates to stationery cabinets, meat safes, bins and the like and has for its main object to provide an improved form of cover or door which in the open position leaves the opening to the cabinet unobstructed from a point of view of looking into the cabinet from either side and a further object is to provide an improved form of construction wherein when the closing means are retracted into the cabinet to give access thereto it in no way interferes with the placing of articles on the floor of the cabinet.

In accordance with the present invention an opening to a cabinet, meat safe, bin or the like is closed by a bendable sheet metal cover or door, the opening of the cabinet or the like being provided with channel guides which run across the opening and behind a contiguous wall, the guides being so arranged that opposite sides of the sheet metal closure member ride therein and can be moved bodily by sliding the closure member along the guides, each end of the closure member being reinforced at the edge to give transverse stability to the sheet metal member.

The sheet metal closure member may be arranged to slide from a horizontal position into a vertical position, for example, in the closing of bins in which the opening to the bin is in the top, and in such constructions, when the closure member is moved to the open position for the bin, the closure member will take up a position behind the rear wall.

In constructions such as stationery cabinets, meat safes or the like where the opening is in front of the cabinet the closure member in the open position becomes disposed under a horizontal wall of the cabinet above the opening. This horizontal wall may be the top of the

cabinet or may be a horizontal partition member where a series of cabinets are mounted one on the other. 55

In a modification the closure member may be slid from the opening in front of the cabinet or the like behind a side wall in order to open the cabinet so that in one form of construction the guides for the closure member are arranged in parallel vertical planes whilst in the other construction they are arranged in horizontal planes, and in the latter the opening to the cabinet may be closed by two closure members which meet in the middle, and move apart alongside opposite walls of the cabinet, so that the opening to the cabinet may be twice the width of the depth of the cabinet. 60 65 70

The present invention comprises a unit fitting for cabinets, meat safes, bins or the like comprised by a bent rectangle, the sides of which are constituted by channel guides, and a bendable closure member of sheet metal located between the guides, the edges of the closure member riding within the guides, the ends of the guides being connected by transverse members by which they in turn can be connected to a cabinet wall and each end of the closure member being reinforced so as to give stability against distortion when pressure is applied on the outer end of the closure member to manipulate it into either the open or the closed position. 75 80 85

In a preferred construction of cabinet, meat safe, bin or the like according to the present invention, the cabinet comprises an upright open front and a horizontal top of greater depth than the front opening, a channel guide at each side of the front opening running upwardly and bending rearwardly within the cabinet under the top thereof and a bendable sheet metal closure for the front opening, the sides of which closure lie within the channel guides and each end of the closure being flanged over to give transverse stability thereto. The arrangement being such that when opening the cabinet the closure is removed from the front opening by sliding it bodily along the guides from the front of the cabinet to a position under the top 90 95 100

thereof.

The upright open front to the cabinet may be slightly inclined to the vertical or bulged outwardly to increase the capacity of the cabinet over that which would obtain if the front was flat.

The sheet metal closure is preferably made of tin plate or black plate of thin gauge so that it can be bent easily, as if it was being partially rolled, to allow it to pass through the arc by which it changes direction on leaving the front of the cabinet and commencing to be disposed under the top thereof.

The closure may be made of sheet metal which is of foraminous nature, particularly where food is intended to be stored in the cabinet and in such case ventilation openings may be formed also in the sides of the cabinet.

However, a cabinet constructed according to the invention is suitable for office use in the storage of stationery, since if stationery is stacked on the floor of the cabinet it is not damaged by opening the cabinet, and in the case of the storage of food, clearly, dishes or containers may be placed against the back wall of the cabinet without in any way obstructing access through the front.

In order that the invention may be more clearly understood a preferred form of construction will now be described by way of example.

The container is formed of sheet metal and is of rectangular form so that the open front wall is disposed at right angles to the top, the front wall comprises only a border frame and within the border frame the opening to the cabinet, and in accordance with the invention this opening is closed by a sliding metal plate, the edges of which engage in channels which are vertically disposed at the side of the opening and at the top are of arcuate form and then extended rearwardly, parallel with the top of the cabinet.

By such arrangement the metal closure can be bodily slid from its normal vertical position closing the front opening to the cabinet into a position in which it lies under the roof and at right angles to the front wall.

The vertical guides may be provided by disposing behind the border frame which constitutes the front wall a right angle or Z-shaped strip which rests on the floor of the cabinet and has one edge secured to the respective side wall; whilst the other edge carries one of the guides. The said other edge of a Z strip may lie behind and parallel to the border frame, leaving a gap therebetween in which is disposed a vertical marginal edge of the sheet metal closure.

The floor of the cabinet preferably extends beyond the border frame outwardly and the bottom edge of the sheet metal closure is flanged outwardly so that in the closed position this flange rests on the forward extension of the floor. Moreover this flange gives transverse stability to the sheet metal closure, and it will be observed that by using the Z form of strip the edge of the closure is guided in a neck to a closed chamber confined between the Z strip and the border frame, so that there is a secure seal against the entry of vermin.

There may be provided, just above the flange at the bottom of the closure, a handle to facilitate manipulation, though the flange itself may be formed to constitute a handle.

The Z strip at the upper part behind the border frame is bent in a smooth arc and is extended in a horizontal plane and when the closure is moved up into horizontal open position, its sides will rest on this Z member which is, in the upper part, also secured to the side wall, and there is preferably provided a second strip, secured to the top of the cabinet, in spaced relation with the Z strip so as to overlie the edge of the closure so that there is in nature a channel guide for the closure from end to end of its travel.

In the construction described the open front and the cover are normally arranged in a vertical plane, but in a modified form the front border frame may be bulged and the guiding means for the closure similarly bent so that when the closure is in closed position there is in fact an outwardly bulged front wall to the cabinet, by which arrangement the normal capacity is increased.

Preferably the floor of the cabinet is stepped along the front edge and the guide members for the closure member enter the re-entrant angle of the step so that the closure member overlaps the floor of the cabinet in the closed position.

In such form of construction the border frame at the front of the cabinet may be provided at each vertical side with a plate having an outer edge corresponding to the intended configuration for the bulge and on the front edge of the plate is mounted a channel guide member constructed according to the invention so that the closure member in the closed position adopts a bulged form corresponding to the profile of the aforesaid plates and in being moved to the open position it slides along the guides and under the top of the cabinet.

Clearly, this bulged form or protruding form for the closure member can also be obtained in a cabinet in which the opening is closed by two closure members meeting at the middle. On opposite sides of

the opening, for instance, the top and bottom, suitably shaped plates are provided on the border frame, and along each profile of such plates guides according to the invention are provided so as to divert the closure member into a position beyond the front of the cabinet. Where plate members are arranged at the top and bottom of the opening a false bottom is provided so that a closure member moving downwards from the opening moves into a position between the false bottom and the actual bottom of the cabinet.

By the present invention a simple, hygienic, and very effective form of cabinet for stationery, or meat safe, or bin such as used in grocers' or chemists' shops can be produced in which the full opening to the cabinet is given whilst there is no

mechanism to get out of order. Moreover the closure member, unlike hinged elements, remains in any position of adjustment, and where the closure member is retracted into a horizontal position to open the cabinet does not at any time prevent the whole of the floor space in the cabinet being utilised.

Cabinets according to the present invention may include superposed compartments each provided with a sheet metal closure mounted and constructed according to the invention.

Dated this 12th day of February, 1945.

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Agents for the Applicants.

COMPLETE SPECIFICATION

Improvements in Closures for Cabinets, Bins and like Receptacles

We, JOHN CARTNER, of 8, Cavendish Square, London, W.1, England, and MAURICE MARTIN MILES SHERWOOD, of 37, Vauxhall Street, Rainbow Hill, Worcester, England, both British subjects, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to stationery cabinets, meat safes, bins and the like and has for its main object to provide an improved form of shutter or door which in the open position leaves the opening to the cabinet unobstructed from a point of view of looking into the cabinet from either side and a further object is to provide an improved form of construction wherein when access to the cabinet is desired the closing means are retracted into the cabinet and in no way interferes with the placing of articles on the floor of the cabinet.

In accordance with the present invention an opening to a cabinet, meat safe, bin or the like is closed by a bendable sheet metal member, the opening of the cabinet or the like being provided with channel guides which run across the opening and behind a contiguous wall, the guides being so arranged that opposite sides of the sheet metal closure member ride therein through their range of movement and the closure member can be moved bodily by sliding along the guides and is throughout its movement constrained thereby to follow a path parallel thereto, each end of the closure member being flanged over to reinforce the edge to give transverse stability

to the sheet metal member.

The sheet metal closure member may be arranged to slide from a horizontal position into a vertical position, for example, in the closing of bins in which the opening to the bin is in the top, and in such constructions, when the closure member is moved to the open position for the bin, the closure member will take up a position behind the rear wall.

In constructions such as stationery cabinets, meat safes or the like where the opening is in the front of the cabinet the closure member in the open position becomes disposed under a horizontal wall of the cabinet above the opening. This horizontal wall may be the top of the cabinet or may be a horizontal partition member where a series of apertures are provided in the cabinet.

In a modification the closure member may be slid from the opening in front of the cabinet or the like behind a side wall in order to open the cabinet so that in one form of construction the guides for the closure member are arranged in parallel vertical planes whilst in the other construction they are arranged in horizontal planes, and in the latter the opening to the cabinet may be closed by two closure members which meet in the middle, and move apart alongside the opposite walls of the cabinet, so that the opening to the cabinet may be twice the width of the depth of the cabinet.

The present invention also includes a unit fitting for cabinets, meat safes, bins or the like comprising channel guides, a bendable closure member of sheet metal located between the guides, the edges of

the closure member riding within the guides through their range of movement and being constrained thereby to follow a path parallel thereto, and transverse members connected with the ends of the guides and adapted for connection to the walls of a cabinet, each end of the closure member being flanged over to reinforce the end so as to give stability against distortion when pressure is applied on the outer end of the closure member to manipulate it into either the open or the closed position.

In a preferred construction of cabinet, meat safe, bin or the like according to the present invention, the cabinet comprises an upright open front and a horizontal top of greater depth than the front opening, a channel guide at each side of the front opening running upwardly and bending rearwardly within the cabinet under the top thereof and a bendable sheet metal closure member for the front opening, the sides of which closure member lie within the channel guides and each end of the closure member being flanged over to give transverse stability thereto. The arrangement being such that when opening the cabinet the closure member is removed from the front opening by sliding it bodily along the guides, in a path parallel thereto, from the front of the cabinet to a position under the top thereof.

The upright open front to the cabinet may be slightly inclined to the vertical or bulged outwardly to increase the capacity of the cabinet over that which would obtain if the front was flat.

The sheet metal closure member is preferably made of tin plate or black plate of thin gauge so that it can be bent easily, as if it was being partially rolled, to allow it to pass through the arc by which it changes direction on leaving the front of the cabinet and commencing to be disposed under the top thereof.

The closure member may be made of sheet metal which is of foraminous nature, particularly where food is intended to be stored in the cabinet and in such case ventilation openings may be formed also in the sides of the cabinet.

However, a cabinet constructed according to the invention is suitable for office use in the storage of stationery, since if stationery is stacked on the floor of the cabinet it is not damaged by opening the cabinet, and in the case of the storage of food, clearly, dishes or containers may be placed against the back wall of the cabinet without in any way obstructing access through the front.

In order that the invention may be more clearly understood and readily put into practice, some embodiments thereof will

now be described by way of example with reference to the accompanying drawings in which:—

Figure 1 shows a vertical section through a cabinet constructed in accordance with the present invention with the closure member in the closed position.

Figure 2 shows a perspective view of a modified form of cabinet;

Figure 3 shows a vertical section on the cabinet shown in Figure 2;

Figure 4 shows a sectional view of the line A—A Figure 3;

Figure 5 shows a sectional view on the line B—B, Figure 3 and

Figures 6 and 7 show modified forms of guides in which the closure member is moved.

The container is formed of sheet metal and is of rectangular form so that the open front wall is disposed at right angles to the top, the front wall comprises only a border frame 1 and within the border frame the opening 2 to the cabinet, and in accordance with the invention this opening is shuttered by a sliding sheet metal plate 3, the edges of which engage in channels 4 disposed at the sides of the opening and which extend rearwardly into the cabinet to be adjacent a wall thereof which is contiguous with the wall in which the opening 2 is formed. Those portions of the guides which are respectively adjacent the two contiguous sides of the cabinet are connected by portions of arcuate shape so that the plate 3 can slide easily from open to closed position or *vice versa* without buckling or sagging.

By such arrangement the sheet metal shutter can be bodily slid from its normal vertical position closing the front opening 2 to the cabinet into a position in which it lies under the roof and at right angles to the front wall and during this movement is constrained by the guides to move in a path parallel thereto to avoid distortion of the shutter in the direction of movement thereof.

The guides 4 are shown in Figures 2, 3 and 4 as being of U-form but in alternative constructions may comprise the walls of the cabinet and a right angle strip 5, Figure 6 or a Z-shaped strip 5a, Figure 7.

The strips 5, 5a are so spaced from the sides of the cabinet that the closure member 3 can be moved therebetween as above described.

The floor of the cabinet extends beyond the border frame 1 outwardly and the bottom edge of the sheet metal closure member 3 is flanged outwardly as at 6, Figure 1, so that in the closed position this flange rests on the forward extension of the floor. Moreover the flange 6 gives transverse stability to the sheet metal

closure and to further this stability the rear or opposite edge of the member 3 is similarly flanged as at 6a Figure 3.

By using a Z-form of strip 5a the edges 5 of the shutter extend into a closed chamber 7 confined between the Z-strip and the border frame 1, so that there is a secure seal against the entry of vermin.

Preferably there is provided, just above 10 the flange 6 at the bottom of the shutter 3, a handle 8 to facilitate manipulation, though the flange itself may be formed to constitute a handle.

The Z-strip at the upper part behind the 15 border frame is bent in a smooth arc and is extended in a horizontal plane and when the closure is moved up into horizontal open position, its sides will rest on this Z-member which is, in the upper part, also 20 secured to the side wall, and there is provided a second strip 9, secured to the top of the cabinet, in spaced relation with the Z-strip so as to overlie the edge of the shutter and form a channel guide for the 25 shutter from end to end of its travel.

In the construction shown in Figures 2 to 5 the front border frame is bulged as at 10 and 11 and the channels for the shutter are similarly bent so that when the shutter 30 is in closed position there is in fact an outwardly bulged front wall to the cabinet, by which arrangement the capacity of the cabinet is increased.

Preferably the floor of the cabinet is 35 stepped along the front edge and the channels 4 for the closure member 3 enter the re-entrant angle 12 of the step so that the closure member overlaps the floor of the cabinet in the closed position. In 40 such form of construction the border frame at the front of the cabinet may be provided at each vertical side with a plate 13 having an outer edge corresponding to the intended configuration for the bulge and 45 on the front edge of the plate is mounted a channel guide member 4 constructed according to the invention so that the closure member in the closed position adopts a bulged form corresponding to the 50 profile of the aforesaid plates and in being moved to the open position it slides in the channels and under the top of the cabinet.

Clearly, this bulged form or protruding form for the closure member can be 55 obtained in a cabinet which is closed by one or more closure members. In the arrangement shown in Figures 2 to 5 two such members are shown. On opposite sides of the opening 2, for instance, the top 60 and bottom, suitably shaped plates 13 are provided on the border frame 1, and along each profile of such plates channels 4 according to the invention are provided so as to guide the closure member into a posi- 65 tion beyond the front of the cabinet.

Where plate members are arranged at the top and bottom of the cabinet a false bottom 14 is provided to subdivide the interior.

By the present invention a simple, 70 hygienic, and very effective form of cabinet for stationery, or meat safe, or bin such as used in grocers' or chemists' shops can be produced in which the full opening to the cabinet is given whilst there is no 75 mechanism to get out of order. Moreover the closure member, unlike hinged elements, remains in any position of adjustment, and where the closure member is retracted into a horizontal position to 80 open the cabinet does not at any time prevent the whole of the floor space in the cabinet being utilised.

Cabinets according to the present invention may include superposed compartments 85 each provided with a sheet metal closure member mounted and constructed according to the invention.

Although in the foregoing description the closing device according to the in- 90 vention has been described as built into a cabinet, it will be appreciated that it can be supplied separately as a unit fitting for inclusion in an existing cabinet. When this is done the unit fitting comprises 95 guides and a closure member as above described but the guides are retained in spaced relation by transverse members connected to the ends thereof and by which the unit can be connected to the walls of 100 a cabinet.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim 105 is:—

1. A cabinet, meat safe, bin or the like wherein the opening thereto is closed by a bendable sheet metal closure member, the opening of the cabinet or the like being 110 provided with channel guides which run across the opening and behind a contiguous wall, the guides being so arranged that opposite sides of the sheet metal closure ride therein through their range 115 of movement and the closure member can be moved bodily by sliding along the guides, and is throughout its movement constrained thereby to follow a path parallel thereto, each end of the closure 120 member being flanged over to reinforce the edge to give transverse stability to the sheet metal member.

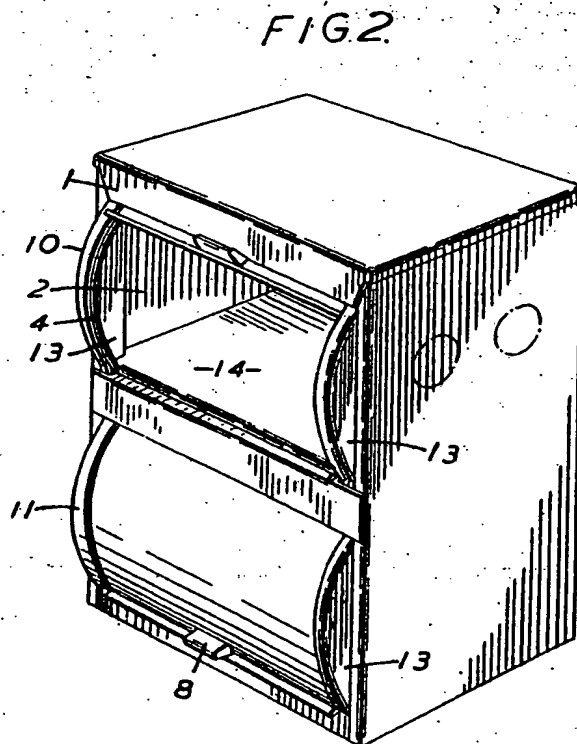
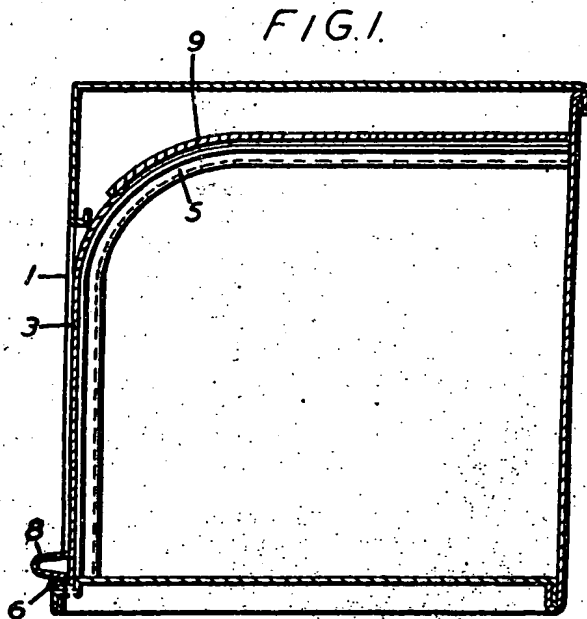
2. For a cabinet, meat safe, bin or the like according to claim 1, a unit fitting 125 comprising channel guides, a bendable closure member of sheet metal located between the guides, the edges of the closure member riding within the guides through their range of movement and being con- 130

- strained thereby to follow a path parallel thereto, and transverse members connected with the ends of the guides and adapted for connection to the walls of a cabinet, each end of the closure member being flanged over to reinforce the end so as to give stability against distortion when pressure is applied on the outer end of the closure member to manipulate it into either the open or the closed position.
3. A cabinet, meat safe, bin or the like according to claim 1 wherein the closure member slides from a horizontal to a vertical position when the closure member is moved to the open position for the bin or the like, whereby the closure member will take up a position behind a rear wall contiguous with that in which the opening is formed.
4. A cabinet, meat safe, bin or the like according to claim 1, wherein the opening is in the front of the cabinet and the closure member when in the open position becomes disposed under a horizontal wall of the cabinet above the opening.
5. A cabinet, meat safe, bin or the like according to claim 1, wherein the closure member is slid from an opening in front of the cabinet or the like behind a side wall in order to open the cabinet.
6. A cabinet, meat safe, bin or the like according to claim 5, wherein the cabinet or the like is closed by two closure members which meet in the middle, and move apart alongside opposite walls of the cabinet.
7. A cabinet, meat safe, bin or the like according to claim 1 or a unit fitting according to claim 2, wherein the open front and the channel guides are bulged outwardly to increase the capacity of the cabinet.
8. A cabinet or the like according to claim 1 or a unit fitting according to claim 2, wherein the sheet metal member is of foraminous nature to enable food to be stored in the cabinet.
9. A cabinet or the like according to claim 1 wherein each guide comprises a Z-shaped strip which rests on the floor of the cabinet and has one edge secured to its adjacent side wall, whilst the other edge, together with the front wall of the cabinet forms a channel guide for the closure member.
10. A cabinet, meat safe, bin or the like according to claim 1 or a unit fitting according to claim 2 arranged, constructed and adapted to operate substantially as hereinbefore described or as shown in the accompanying drawing.

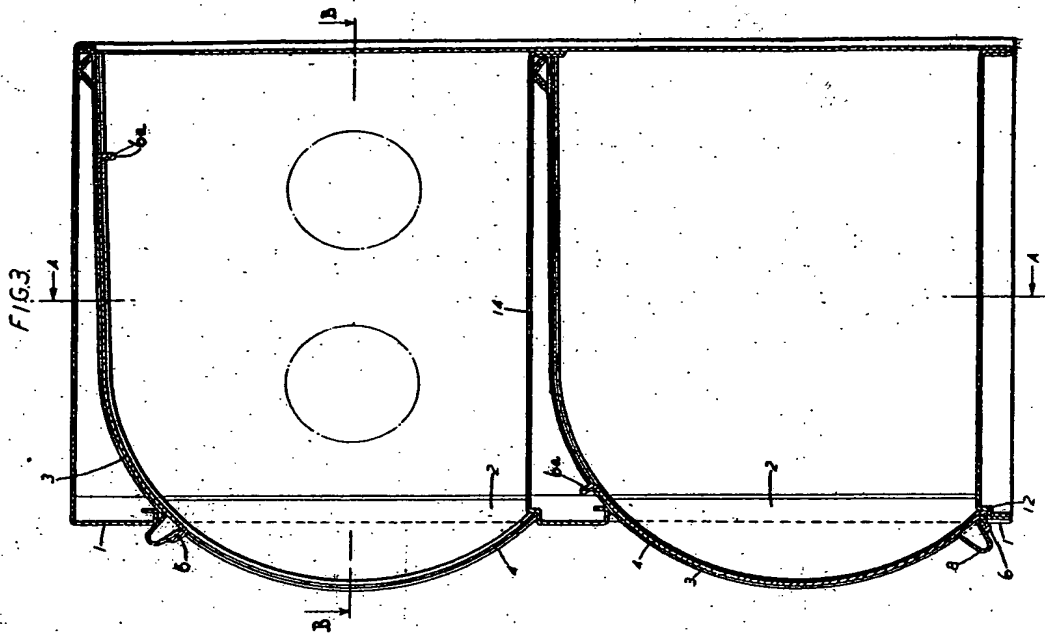
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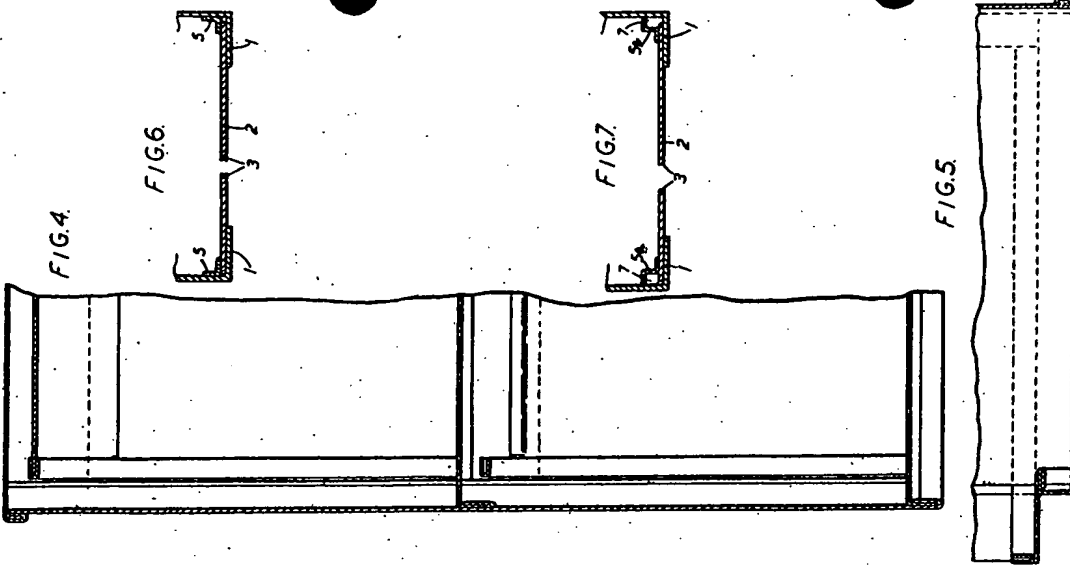
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